

PART V -- PROGRAM NARRATIVE

PTFP APPLICATION / DISTANCE LEARNING

GPB's "DIRECT-PC RURAL BROADBAND" approach, utilizing GPTV, offers Internet Services via Digital Television (DTV) operations to Georgia's technologically underserved schools. The purpose of this application is to enable the delivery of multi-media content using the digital transmission infrastructures that Georgia Public Broadcasting (GPB) will be building. This application addresses utilizing high-speed bandwidth – outbound – with lower-speed return service, similar to the "Direct-PC" business model. It focuses on a rich-media web portal built by three state of Georgia education entities and plans to make use of this digital infrastructure to deliver this media to teachers and students throughout Georgia.

"Internet Tunneling" accepts a slow speed dial-up Internet Service Provider (ISP) connection user inquiry, and returns the WWW session over the GPTV DTV transmitter of service to the rural user's own PC. A Windows NT server at the DTV transmitter encapsulates the Internet Protocol (IP) over the DTV MPEG/ATSC signal. Companion PC cards provided to schools will receive/decode the high-speed data.

This request is being made under the Broadcast Equipment Replacement, Augmentation category, Special Applications Priority.

Evaluation Criterion #1 / Applicant Qualifications

The Georgia Public Telecommunications Commission (GPTC) was created in 1981 to

- ensure that the citizens of Georgia would benefit to the highest possible degree from the state's public broadcasting resources
- implement new technological advances
- implement fundraising and marketing activities to support the statewide network

GPTC was formed through the merger of the Georgia Educational Network, an affiliation of nine stations operated by the Georgia Department of Education, and WGTV. The Foundation for Public Broadcasting in Georgia, Inc., a 501(c)(3) corporation, was created in 1982 to facilitate fundraising and marketing activities in the private sector.

Georgia Public Broadcasting (GPB) is the program service of GPTC. the state authority that holds its licenses. GPB's main service divisions are

- Georgia Public Television (GPTV), a nine-station statewide public television network
- Georgia Public Radio (GPR), a fourteen-station public radio statewide network
- PeachStar Education Services, which delivers educational programs via satellite to every public school, technical institute, college and university, and regional library in the State of Georgia.

Construction of GPB's new headquarters and state-of-the-art production center in 1997 was made possible by the support of the Governor and the Georgia General Assembly using state lottery proceeds. GPB's headquarters are in Atlanta, Georgia on approximately three acres, adjacent to the new Georgia Center for Advanced Telecommunications Technology (GCATT). With the close proximity of Turner Broadcasting, AT&T, BellSouth, Georgia Tech, Georgia State University, and GCATT, the location is quickly emerging as the heart of

telecommunications research and innovative telecommunications technology in Georgia.

The new GPB facility has approximately 227,000 square feet on five floors. With its digital technology capabilities, it is one of the most technologically advanced public television and radio facilities in the nation. The building's main features include three large production studios, one with an audience seating capacity of 250, six smaller studios that are equipped with robotic cameras and small control rooms, three major post edit suites, and one major audio production suite. Three talk/production studios and one live performance studio are dedicated to Georgia Public Radio.

Georgia Public Television (GPTV)

Georgia Public Television (GPTV) broadcasts 24 hours a day, Monday through Saturday, and 20 hours on Sunday. GPTV obtains most of the programming for which public television is best-known from PBS, the national public broadcasting program service. However, GPTV's own productions are an increasingly important part of the program schedule. For instance, GPTV created the *Georgia Legacy Series*, an ongoing series of programs that tell the stories of Georgia's unique heritage, culture, people, and beautiful surroundings. As of January 1, 2000, distance learning programs are broadcast after 12:00 AM so that the programs may be recorded for classroom use at a later time.

The central television network operations in Atlanta transmits GPTV's programs to the nine transmitter sites:

• Albany/Pelham	WABW	/	14
• Atlanta/Athens	WGTV	/	8
• Augusta/Wrens	WCES	/	20
• Columbus/Warm Springs	WJSP	/	28
• Chatsworth/Dalton	WCLP	/	18
• Dawson/Americus	WACS	/	25
• Macon/Cochran	WDCO	/	29
• Savannah/Pembroke	WVAN	/	9
• Waycross/Valdosta	WXGA	/	8

PeachStar Education Services

PeachStar Education Services provides programming, curricula materials, teacher training and services delivered via the PeachStar Satellite Network and Georgia Public Television, to students of all ages throughout the state and nation. Each year, PeachStar broadcasts hundreds of hours of instructional programming designed to be taped for use in the classroom and provide GED, college-level telecourses, and staff development programming for educators at all levels. Printed teachers' guides and other multimedia material, including web pages, are also available to accompany PeachStar programming.

Evaluation Criterion #2 / Project Objectives

The objective of this project is to use the digital television infrastructure that is being built to meet FCC requirements and deadlines to also serve as a means of delivering digital multi-media content to schools via datacasting. For the past three years, the PeachStar education division of

Georgia Public Broadcasting (GPB) has been working with the Department of Education's Georgia Learning Connection (GLC) unit to build a resource of lesson plans and supporting material for teachers and students. Both of these state entities have contracted with a third party, CEISMC (a Georgia Institute of Technology organization) to design and build this web portal. A significant portion of the lesson plans' material is now available on the GLC's web site – www.glc.k12.ga.us. This material addresses the 7,000+ Quality Core Curriculum (QCC) standards that are required to be taught from kindergarten through twelfth grade within all of the different disciplines addressed during that learning period.

The Georgia Learning Connections web link database contains links to Internet resources that are connected to individual QCC standards. Georgia teachers worked with PeachStar to locate, evaluate (based on selected criteria), and connect the exact resource that will help teach an individual QCC standard. The web link resources are clearly organized and easy to search. Both teachers and students can use them. GPB will be adding video and audio content as additional web resources for use by teachers and students. As stated in the first paragraph of Exhibit E, the purpose of this correlation project is to correlate all of the video holdings of GPB with educational standards at the Pre-K, K-12, Technical, Higher Education, National, and Adult and Continuing Education levels. In the process, the second purpose is to create a national model system wherein educators easily can identify and access educational video programming that helps their students meet performance expectations.

Since June 2000, one hundred certified Georgia teachers with subject and grade level expertise have worked with PeachStar for a total of 3,289 hours to correlate 306 hours of programming in 493 episodes to the QCC. The second phase of designing and of beginning to "ingest" that video for storage is funded and expenditures have already begun to be made. This grant request addresses the third phase of using the infrastructure to deliver this content to rural educators and students – including home schools. This collaborative development between Georgia Public Broadcasting, Georgia Learning Connection, and CEISMC represents a "walled garden" portal. Making this portal accessible to the rural communities that do not have the necessary bandwidth for the foreseeable future is the heart of this grant application.

GPTV is currently beginning deployment of its federally mandated DTV transmission service to all 9 of its broadcast TV transmitter sites. These will be rolled out over the next three years at 2 to 4 per year to meet the May 2003 FCC deadline. Our first DTV transmitters will be in the Chatsworth, Cochran-Macon and Athens-Atlanta areas. These are scheduled and funded to be on the air in early calendar year 2002. These DTV data payload(s) will carry the "Direct-PC Rural Broadband" services enabled by this grant application. The 500 PC-based DTV receiver cards are matched to the combined school population in these areas. These schools would receive this signal off-air just as they currently do with GPTV analog service. These rural schools mostly have slow speed ISP dial up services which, when augmented by this equipment/system configuration, will enable them to enjoy much improved data rates and thus improved downloading operations.

Evaluation Criterion #3 / Urgency

This funding represents a significant portion of the final phase of delivery video and audio content to the education community. With the schedule of converting to a completely digital transmission facility set, the infrastructure to use this delivery mechanism that addresses the rural broadband necessity will be in place during this funding's cycle.

GPTV's DTV service will both provide an immediate replication/transition of our current NTSC analog service, as well as a capability for broadcast data services. WWW interaction is a growing need of all schools and a particularly frustrating point for rural locations. This "Direct-PC Rural Broadband" capability allows immediate service into these locations where the commercial ADSL and Cable Modems, etc. are just not available. Left alone, these schools are simply not able to participate in the ever-emerging WWW FTP and STREAMING advances and data access benefits. This is a true "quick start" project benefit.

Evaluation Criterion #4 / Technical Qualifications

The majority of the equipment costs are the receiver cards or receiver boxes. The receiver boxes are USB boxes instead of PC PCI cards so that the end users do not have to open up their PC's to use this device. Its purpose is to receive the digital signal from a normal antennae then store that signal on the hard drive, play out that streamed media on the PC screen and/or send that same signal to a television display.

The eligible equipment shown in the equipment list is in actuality where the WWW is colliding with broadcast television. As this is also happening at the remote school location, it needs to happen at the broadcast emanation point. The remote PC based DTV receiver cards / boxes come from the evolving consumer electronics marketplace but are equipped to handle the data transmission duties directly into the host PC. This circumvents the often unreliable and slow performance of VCR tapes from video only broadcasts. Consumers have found this automatable access a resounding success in the PVR (personal video recorder – TiVo) products for entertainment. GPTV will offer a similar, compelling, and user-friendly operation in the remote PC operator/student/teacher.

GPTV's combined talents in its broadcast video and IT operations are fully focused on this initiative to bring timely and highly desired internet services to rural areas.

Evaluation Criterion #5 / Financial Qualifications

Funds for the matching funds requirement will be taken from GPB's cash reserves from FY2000.

Evaluation Criterion #6 / Involvement of Women and Minorities

The Georgia Public Telecommunications Commission has a mandate from the state to provide quality programming that educates, informs and entertains all Georgia citizens. We have a long tradition of including women and minorities on the Board of Directors and in all levels of management. Of course, the taxpayers of Georgia are the actual "owners" of this organization. We respect that fact and honor the obligation it places upon us to ensure that we continually

work to provide the radio, television, and educational programming that meets the needs and interests of our diverse population of more than 7 million Georgians.

The Georgia Public Telecommunications Commission has a nine-member Board of Directors that sets policy and direction for the organization. The Board includes three females and one African American. The Leadership Team of the organization includes an Executive Director, a Deputy Director, Director of Government Relations, and the directors of eight operating divisions. Currently, this team consists of three women and two African American males. An Organization Chart is attached as documentation. At the next level of management, the percentage of women and minorities is about 66 percent of the total. In the television programming area, the acting head of program services--GPTV Program Manager, is a woman, and her current staff consists totally of women and minorities. In the production area, our two Executive Producers are women. GPB has six full-time producers on staff; of those three are women and two are African American males. Even in the Engineering Division (a field traditionally dominated by males), we have an African American female broadcast engineer as Master Control Supervisor. GPTC is proud of its record of hiring and promoting staff that reflect the diverse communities of our state.

We are fortunate to serve a state with a diverse population. Approximately 27 percent of the citizens are African American; the Hispanic and Asian populations are growing dramatically and now constitute about 3 percent of the state's population. We are a large state geographically; and, although many of the minority populations are concentrated in metro areas, there are significant numbers of minorities in all parts of the state. Our programming is designed to serve all of our listeners and viewers. It reflects the diverse interests of all Georgians, including minorities.

In the production area, our mission is to create and produce quality programs that celebrate the rich and diverse culture and history of the people of Georgia and explore the issues that affect our citizens. We have produced programming such as *Race Relations in Georgia: A Dialogue*; *Carols from Atlanta: The 70th Anniversary Morehouse Spelman Christmas Concert*; and *Jessye Norman: A Holiday Homecoming*; that are of particular interest to our minority audiences, as well as the entire state. GPB's radio programming has been recognized by the Pioneer Black Journalist Awards. In 1999, Georgia Public Radio picked up four first place awards for outstanding news and feature reporting. In all of our local productions we work to ensure that we include individuals, groups and topics that reflect the demographics of our state.

As an active corporate citizen of our state as well as a state authority, we are also involved in partnerships with several community organizations, legislative bodies and other broadcast and educational institutions that share our mission as well as serve the needs and interests of women and minorities. We are involved in an extensive partnership with Clark Atlanta University, the nation's largest United Negro College Fund institution. The collaboration initiatives include airing joint programming on our radio and television stations, co-production of programming for both television and radio and providing internship opportunities in all production, development

and technical areas for Clark Atlanta students. GPB also has developed an internship program in partnership with NPR's *Performance Today* for minority students interested in classical music. The students spend one semester working with Georgia Public Broadcasting and one semester working with *Performance Today* in Washington, D.C.

Through the educational programming Georgia Public Broadcasting provides with our multiple delivery systems, GPB serves the needs of nontraditional students, a high percentage of whom are women and minorities. We are continually looking for ways to expand the options for these learners. We have recently expanded our broadcast day of Georgia Public Television to 24 hours, reserving the early morning hours solely for educational programming. We also provide educational programming via two television channels a day to students in youth detention centers, colleges, universities, public libraries and work sites. Many of these are nontraditional learners. Much of our educational programming will soon be available over the Internet through a partnership with Georgia GLOBE, the state's online learning initiative.

Other organizations that GPTC has partnered with include the Georgia Commission on Women, the Women's Legislative Caucus, the Georgia Coalition of Black Women, the Georgia Legislative Black Caucus, the Girl Scouts, ATLAS (a mentoring program pairing professional women with middle school and high school girls) as well as the six historically black colleges in Atlanta, which are located near our headquarters facility. For two years, Georgia Public Broadcasting has been a sponsor and host of the *Women Making A Mark* fund-raiser for the Atlanta Women's Fund, which honors metro Atlanta's 20 most powerful women who have made a positive mark on the community.



GEORGIA PUBLIC BROADCASTING

Executive Office

James M. Lyle
Executive Director

John Hughes
Deputy Director

Information Technology

Michael E. Nixon, Director

Human Resources and Security

Melvin Jones, Director

Engineering

Mark G. Fehlig
Director

- Provides technical and engineering maintenance services for GPB
- Operates Master Control and delivers broadcast signals for GPTV, Peach State Public Radio and PeachStar Education Services
- Manages all transmitter site facilities and broadcast operations
- Maintains FCC technical and public files
- Provides technical support and maintenance services for GaRRS

Corporate and Community Services

Lisa Anne Gaston
Director

- Manages consolidated member services and pledge fulfillment
- Secures corporate underwriting
- Manages public and community relations
- Responsible for all printed publications, member and corporate communications
- Provides grant writing for GPTV, Peach State Public Radio and PeachStar Education Services
- GPB website content development and maintenance
- Assists with on-air pledge drives
- Manages special events

PeachStar Education Services

Blaine Carpenter
Interim Director

- Delivers educational material through PeachStar Satellite Network
- Video-based, electronically delivered instruction for all Georgia schools, colleges, technical institutes
- Video on request service for Georgia educators
- Video production for state education agencies
- Staff development for educators
- Instructional programming production for state and national distribution
- State and national teleconferences
- Continuing education

GPTV Broadcast Services

Jennifer Hunt-Dempsey
Acting Director

- Responsible for GPTV program selection and scheduling
- Broadcast traffic operations
- Maintains and archives video materials
- Creates pledge programming and manages broadcast of television and radio pledge drives
- Manages television program breaks
- Creates underwriting spots and associated graphics
- Manages on-air look and sound of breaks and underwriting spots

GPTV Productions

Mike Klein
Director

- Creates and produces television program materials
- Produces all underwritten GPTV programs
- Manages and operates GPB's video production facilities
- Manages account relationships with organizations who rent GPB's production facilities
- Manages all video production interns
- Develops proposals for outside production
- Develops and manages production budgets
- Secures and presents GPB-wide endorsement for proposed local productions

Finance and Administrative Services

Bonnie R. Bean
Director

- Provides financial management and asset controls for GPB
- Provides routine organizational support services such as procurement, supply, mailroom, receptionist, vehicle management and facility maintenance
- Budget development and management
- Project accounting
- Local production accounting

Georgia Public Radio

Vacant
Director

- Responsible for GPB's National Public Radio (NPR) on-air radio presence and content
- Management and programming for 14-station public radio network
- Statewide news and public affairs operation
- Researches and produces daily news casts and local public affairs radio series

DTV PFRM APPLICATION AND VHF
INTERFERENCE STUDIES FOR THE
DIGITAL TELEVISION BROADCAST
STATION WCES-DT TO OPERATE ON
DTV CHANNEL 2 WITH AN ERP OF
5 KW AT AN ANTENNA HEIGHT
RADIATION CENTER OF 435.6 METERS
ABOVE AVERAGE TERRAIN
WRENS, GEORGIA
(GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION)

KESSLER & GEHMAN ASSOCIATES, INC.
TELECOMMUNICATIONS CONSULTING ENGINEERS

20010124

Prepared by William T. Godfrey

KG A

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ENGINEERING TECHNICAL STATEMENT PREPARED BY WILLIAM T. GODFREY OF THE FIRM KESSLER AND GEHMAN ASSOCIATES, INC., TELECOMMUNICATIONS CONSULTING ENGINEERS IN CONNECTION WITH THE GEORGIA PUBLIC TELECOMMUNICATIONS COMMISSION'S (GPTC) DTV APPLICATION FOR A CONSTRUCTION PERMIT IN SUPPORT OF THE WCES-DT PETITION FOR RULE MAKING WHICH SEEKS AUTHORIZATION TO AMEND THE DTV TABLE OF ALLOTMENTS IN ORDER TO SUBSTITUTE THE PROPOSED DTV VHF CHANNEL 2 FOR THE ALLOTTED DTV UHF CHANNEL 36 AT THE LICENSED SITE LOCATED IN WRENS, GEORGIA.

The firm Kessler and Gehman Associates, Inc., has been retained by the Georgia Public Telecommunications Commission (GPTC), Atlanta, Georgia in order to prepare engineering studies and the engineering portion of a digital television (DTV) application for a construction permit in support of the WCES-DT Petition for Rule Making (PFRM) which respectfully requests and seeks authorization for an amendment of the DTV Table of Allotments by substituting the proposed DTV VHF Channel 2 for the allotted DTV UHF Channel 36 at the licensed site located in Wrens, GA.

Discussion

The GPTC is the licensee of nine NTSC broadcast stations and has been assigned a paired DTV channel for each of the nine stations. The enclosed WCES-DT application for the GPTC is just one of six PFRM applications requesting a change from its assigned UHF channel to a desired VHF channel. Kessler and Gehman Associates, Inc. initially conducted a detailed spacing study and determined that two of the nine GPTC stations presently would not be able to convert to VHF without causing above *de minimis*¹ interference to one or more applicable surrounding station(s). Of the nine DTV channels allotted to the GPTC, one station was assigned a VHF channel. Therefore, the GPTC is requesting a "Fleet VHF Conversion" of six of its nine broadcast stations in order to utilize improved signal coverage, heavily reduce support structure upgrade expenses, save on equipment and operational costs and continue digital VHF operation on the proposed channels after the DTV transition has ceased.

Authorization of the "Fleet VHF conversion" will equip the GPTC with seven VHF stations and will serve the public interest significantly with huge savings in tax dollars ranging from the substantial amount of money saved during the DTV purchasing/building phase to the magnitude of electrical savings that low power VHF transmitters offer over high power UHF transmitters. Conversion of the two remaining UHF channels to VHF shall be pursued after the DTV transition when spectrum becomes available so that the GPTC can simulcast efficiently on all nine VHF stations to the entire state of Georgia and beyond.

The objective of the enclosed DTV PFRM application is to amend the DTV Table of Allotments as follows: (1) substitute DTV Channel 2 for assigned DTV Channel 36; (2) change effective radiated power (ERP) from assigned 325.9kW to 5kW using a directional antenna (cardioid) with the main lobe oriented toward N25°E; and (3) change the antenna radiation center (R/C) height above average terrain (HAAT) from the assigned 452.0 meters to 435.6 meters.

¹ *De minimis* interference is defined as interference to such stations affecting less than two percent of the population they serve. Where a station is receiving interference to between eight and ten percent of the population it would otherwise serve, additional interference is considered *de minimis* if it does not cause interference to the station to exceed the ten-percent threshold.

The GPTC is licensed to operate WCES-TV on UHF, NTSC Channel 20(-) with an ERP of 4,790kW at an antenna height R/C of 452.0 meters AAT using a nondirectional antenna. The assigned principal community for WCES is Wrens, Georgia and the file number for WCES-TV is BLET-19880627KE.

According to the initial allotment plan and reference coordinates (DTV Table of Allotments) set forth in Appendix B of the *Sixth Report and Order* in MM Docket 87-268, FCC 97-115, adopted April 3, 1997, WCES is allotted UHF, DTV Channel 36 at an antenna height R/C of 452.0 meters AAT and an ERP of 325.9kW in order to replicate its licensed UHF, Channel 20 Grade B Contour.

The GPTC has been granted a construction permit for DTV Channel 36 (file number BPEDT-200000425AAR), which authorizes WCES to operate with an ERP of 597kW at an antenna height radiation of 554.0 meters AAT using a nondirectional antenna. Specifically, the GPTC requests authorization to substitute WCES-DT Channel 2 in lieu of the WCES-DT Channel 36 construction permit, and to take any other steps necessary to enable WCES to construct and ultimately operate its digital facilities on Channel 2.

Transmitter

It is proposed to side-mount a Dielectric model THA-C1-5/5-1 circularly polarized, directional (cardioid oriented at N25E°), VHF, DTV antenna on the existing WCES-TV support structure owned by the GPTC. The tower is registered with the FCC and has a registration number of 1018796. The support structure is located at 2316 Miller PL RD in Wrens, GA. The proposed antenna height radiation center is 417.7 meters above ground level (AGL). The antenna's highest point will extend to 429.7 meters AGL and the overall height of the structure will extend to 446.0 meters AGL as depicted in Exhibit 3's elevation view of the support structure

Interference Studies

The enclosed interference studies were computed using a Pentium Pro, 300 MHz, 128-megabyte, Pentium II processor. The calculations were performed using V-Soft Communication's Probe II, professional signal propagation software and interference studies program, which complies with the FCC mandated application-processing guidelines for digital television. This software is in accordance with the standards established in the FCC Public Notice #3060-0841 pertaining to DTV studies and DTV application preparation dated August 10, 1998.

Initial spacing studies, which considered DTV allotments (allot), DTV/NTSC licenses (lic), DTV/NTSC construction permits (cp), DTV/NTSC applications (app) and Class A/Class A-eligible low power television (LPTV) stations in the applicable areas surrounding Wrens, GA revealed that VHF Channel 2 was a possible option for the GPTC station. After the spacing studies were completed additional studies were conducted to verify that the proposed station met the principal community coverage requirements of §73.625(a) located in the Federal Communications Commission's (FCC) rules. Exhibit 11 depicts the proposed WCES-DT F(50,90) 28dBuV/m noise limited contour and verifies that the proposed station's noise limited contour fully encompasses the assigned principal community of Wrens, GA. After it was determined that the principal community coverage requirement was met, we performed detailed interference studies on all applicable surrounding stations using the terrain dependent Longley-Rice, point-to-point propagation algorithm which is detailed in the FCC's Office of Engineering and Technology Bulletin Number 69 (OET 69).

The initial interference studies predicted that the proposed WCES-DT may cause interference to the stations listed below (Exhibit 12) and therefore, are the stations we performed detailed interference studies on to verify that all interference remains within the *de minimis* standard:

- WFMY-TV (LIC)
- WCBD-TV (LIC)
- WSJK-TV (LIC)
- WSBTV (LIC)

Exhibit 12 is a pictorial view of all applicable surrounding stations that are predicted to receive interference from WCES-DT using the proposed azimuth pattern with an ERP of 5kW at an antenna R/C HAAT of 435.6.0 meters. Exhibit 12A is a tabular exhibit which identifies the potential stations that may receive interference from the proposed WCES-DT, including Class A and Class A-eligible LPTV stations. Since this study did not take masking into account, each station was studied in detail in order to determine the exact amount of *unique interference*² caused to each station from the proposed WCES-DT.

NOTE: Starting from Exhibit 12, each pictorial exhibit will also be followed by a tabulation exhibit. For example, Exhibit 15 will be a pictorial exhibit and Exhibit 15A will be a tabulation exhibit.

Exhibits 13 and 14 are studies showing interference from all stations to the WFMY-TV (LIC) station without and with WCES-DT respectively. Exhibit 13 shows that without WCES-DT, populations of 1,661 people are receiving DTV only interference and the interference free population is 2,462,543. Exhibit 14 shows that with WCES-DT, populations of 1,725 people are receiving DTV only interference and the interference free population is 2,462,479. Therefore, the proposed WCES-DT causes $[2,462,543 \text{ (IX free without WCES-DT)} - 2,462,479 \text{ (IX free with WCES-DT)} = 64]$ interference to a total of 64 people. Exhibits 13 and 14 calculated the proposed WFMY-TV Channel 2 station's baseline population to be 3,791,523. Therefore, the total amount of unique interference caused by the proposed WCES-DT is $[64/3,791,523] 0.002\% \leq 2.0\%$ and thus, all requirements under the definition of *de minimis* have been met. Exhibit 14 concludes that the total interference caused to WFMY-TV from all stations including WCES-DT is $[1,725/3,791,523] 0.045\% \leq 10\%$ and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits 15 and 16 are studies showing interference from all stations to the WCBD-TV (LIC) station without and with WCES-DT respectively. Exhibit 15 shows that without WCES-DT, populations of zero (0.0) people are receiving DTV only interference and the interference free population is 825,850. Exhibit 16 shows that with WCES-DT, populations of 16,966 people are receiving DTV only interference and the interference free population is 808,884. Therefore, WCES-DT causes $[825,850 \text{ (IX free without WCES-DT)} - 808,884 \text{ (IX free with WCES-DT)} = 16,966]$ interference to a total of 16,966 people. Exhibits 15 and 16 calculated the WCBD-TV baseline population to be 997,514. Therefore, the total amount of unique interference caused by WCES-DT is $[16,966/997,514] 1.7\% \leq 2.0\%$ and thus, all requirements under the definition of *de minimis* have been met. Exhibit 16 concludes that the total interference caused to WCBD-TV from all stations including WCES-DT is $[16,966/997,514] 1.7\% \leq 10\%$ and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits 17 and 18 are studies showing interference from all stations to the WSJK-TV (LIC) station without and with WCES-DT respectively. Exhibit 17 shows that without WCES-DT, populations of zero (0.0) people are receiving DTV only interference and the interference free population is 1,677,576.

² Unique interference is defined as the predicted interference a DTV station would cause beyond the amount of interference "built into" the DTV allotment table.

Exhibit 18 shows that with WCES-DT, populations of 1,525 people are receiving DTV only interference and the interference free population is 1,676,051. Therefore, WCES-DT causes $[1,677,576 \text{ (IX free without WCES-DT)} - 1,676,051 \text{ (IX free with WCES-DT)} = 1,525]$ interference to a total of 1,525 people. Exhibits 17 and 18 calculated the WSJK-TV baseline population to be 2,038,977. Therefore, the total amount of unique interference caused by WCES-DT is $[1,525/2,038,977]$ $0.075\% \leq 2.0\%$ and thus, all requirements under the definition of *de minimis* have been met. Exhibit 18 concludes that the total interference caused to WSJK-TV from all stations including WCES-DT is $[1,525/2,038,977]$ $0.075\% \leq 10\%$ and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits 19 and 20 are studies showing interference from all stations to the WSBTV (LIC) station without and with WCES-DT respectively. Exhibit 19 shows that without WCES-DT, populations of 4,650 people are receiving DTV only interference and the interference free population is 3,432,514. Exhibit 20 shows that with WCES-DT, populations of 5,804 people are receiving DTV only interference and the interference free population is 3,431,360. Therefore, WCES-DT causes $[3,432,514 \text{ (IX free without WCES-DT)} - 3,431,360 \text{ (IX free with WCES-DT)} = 1,154]$ interference to a total of 1,154 people. Exhibits 19 and 20 calculated the WSBTV baseline population to be 3,600,621. Therefore, the total amount of unique interference caused by WCES-DT is $[1,154/3,600,621]$ $0.032\% \leq 2.0\%$ and thus, all requirements under the definition of *de minimis* have been met. Exhibit 20 concludes that the total interference caused to WSBTV from all stations including WCES-DT is $[5,804/3,600,621]$ $0.16\% \leq 10\%$ and thus, all requirements under the definition of the *10% de-minimis* standard have been met.

Exhibits

Exhibits 1 and 2 represent WCES-DT's administration data, antenna and antenna structure specifications as per §V-D item 9 in the DTV Broadcasting Engineering Data portion of the application regarding directional antennas and beam tilt.

Exhibit 3 depicts the profile view of the proposed antenna on the antenna structure with all the appropriate elevations as per §V-D item 8 in the DTV Broadcasting Engineering Data portion of the application regarding supporting structures and elevations.

Exhibits 4 and 5 display the azimuth pattern and the azimuth pattern tabulation respectively.

Exhibits 6 and 7 display the elevation pattern and the elevation pattern tabulation respectively.

Exhibits 8 and 9 display the ERP/dBk pattern and tabulation respectively.

Exhibit 10 depicts the site location of the proposed WCES-DT site on a 7.5-Minute (Series) Topographic Map as per §V-D item 17 in the DTV Broadcasting Engineering Data portion of the application regarding topographic maps.

Exhibit 11 depicts the proposed WCES-DT coverage contour, boundaries of the principal community to be served, and the proposed transmitting location with radials every 45° as per §V-D item 18 in the DTV Broadcasting Engineering Data portion of the application regarding Sectional Aeronautical Charts.

Exhibits 12 through 20 are detailed interference studies and demographic results of WCES-DT to all applicable stations.

Environmental Impact

The proposed construction will have no significant environmental impact as defined in §1.1307 of the FCC Rules. The DTV transmitter, 1-5/8 inch (50-ohm) transmission line and antenna system will produce an ERP of 5kW. Assuming that the maximum lobe of radiation is oriented at the base of the tower, it will produce a power density six feet above the ground of 0.001 mW/cm^2 . This is only 0.11% of the maximum permissible exposure (MPE) authorized by the American National Standards Institute (ANSI). Since the proposed operation of WCES-DT Channel 2 will not exceed 5.0% of the MPE limit for population/uncontrolled at any point on the ground, WCES-DT is not considered to be a "significant contributor" to the RF exposure environment pursuant to OET Bulletin 65, Edition 97-01. Therefore, contributions of exposure from other sources were not accounted for in this analysis. It is safe to conclude that the emissions will be insignificant and well within the maximum allowable requirements.

If other antennas are placed on the tower in the future, the applicant will cooperate with those users by reducing or completely terminating the power to the antenna when maintenance workers are in danger from the electromagnetic radiation emanating from the antenna. The tower will be enclosed within a fence with warning signs posted at the locked gate.

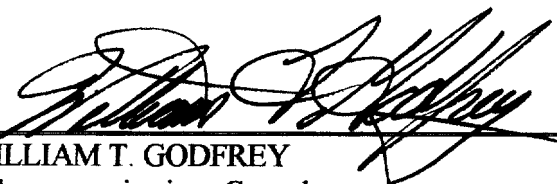
Certification

The applicant accepts full responsibility for the elimination of any objectionable interference including that caused by intermodulation to facilities in existence or authorized prior to the grant of this application.

This technical statement was prepared by William T. Godfrey, Telecommunications Consultant with Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and has been working in the field of radio and television broadcast consulting since 1998. He graduated from the University of North Florida with a Bachelor of Arts degree in Criminal Justice and a minor in Mathematics and received a Commission in the Aviation Branch of the United States Army in 1993. As a Professional in the field of Telecommunications and as a Captain in the United States Army, he states under penalty of perjury that the information contained in this report is true and correct to the best of his knowledge and belief.



KESSLER AND GEHMAN ASSOCIATES, INC.


WILLIAM T. GODFREY
Telecommunications Consultant

6 February, 2001

**WCES-DT
WRENS, GA**

ENGINEERING SPECIFICATIONS

A. Transmitter Site:

Geographic coordinates determined by licensed surveyor:

North Latitude	33° 15' 33"
West Longitude	82° 17' 09"

Transmitter Site Address: **2316 Old Miller Place Road, Wrens, GA 30833**

B. Main Studio Site Address: **260 14th Street N.W., Atlanta, GA 30318.**

C. Proposed Facility:

DTV Channel	Number	2
	Frequency	54-60 MHz

D. Antenna Height:

Height of Site Above Mean Sea Level (AMSL)	132.5 M
Overall Height of Structure Above Ground	446.0 M
(including all appurtenances)	
Overall Height of Structure Above Mean Sea Level	578.5 M
(including all appurtenances)	
Height of Site Above Average Terrain	7.4 M
Antenna Height Radiation Center (R/C) Above Ground	417.7 M
Antenna Height R/C Above Mean Sea Level	550.2 M
Average of All Non-Odd Radials	114.6 M
Antenna Height R/C Above Average Terrain	435.6 M

E. System Parameters – Horizontal Polarization:

Transmitter Power Required	0.31 kW
Maximum Power Input to Antenna	0.19 kW
Total System Loss	2.27 dB
Transmission Line Efficiency	59.3%
Maximum Antenna Gain in Beam Maximum	14.31 dB
Maximum Antenna Gain in Horizontal Plane	14.28 dB
Maximum Effective Radiated Power	6.99 dBk
In Beam Maximum	5.0 kW
Maximum Effective Radiated Power	6.96 dBk
In Horizontal Plane	4.96 kW

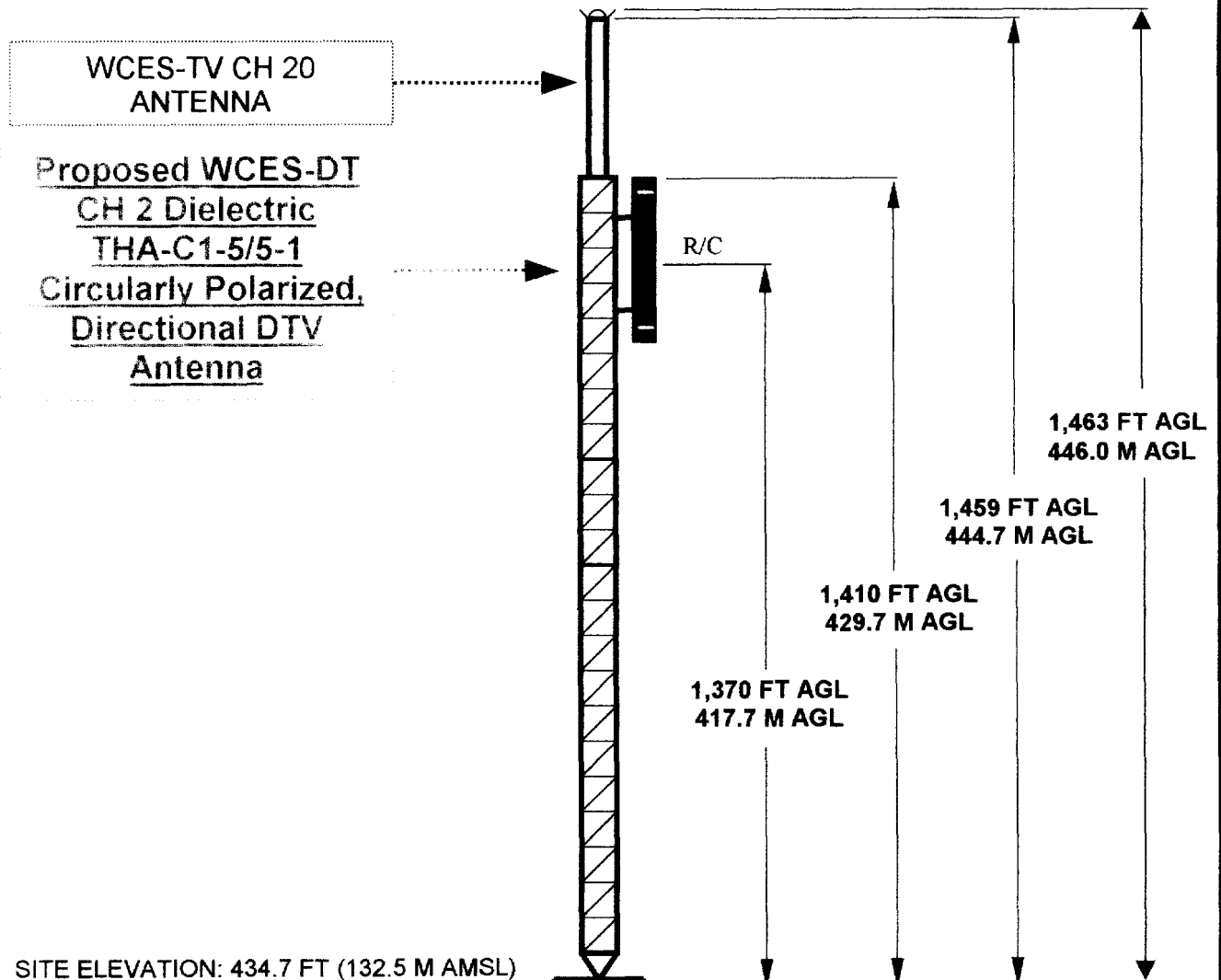
**WCES-DT
WRENS, GA**

**DATA FOR PROPOSED DTV
DIRECTIONAL TRANSMITTING ANTENNA**

- A. **Antenna:** Dielectric THA-C1-5/5-1, Circularly Polarized, Directional (Cardioid), Side-mount Antenna.
- B. **Electrical Beam Tilt:** 0.5°
- C. **Mechanical Beam Tilt:** None.
- D.

<u>Maximum Power Gain</u>	<u>Horizontal Polarization</u>
Maximum:	27.0 (14.31 dB)
Horizontal:	26.8 (14.28 dB)
- E. **Length:** 80.7 feet (24.6 meters) not including appurtenances.
- F. **Average Power DTV:** 0.31kW
- G. **Null Fill:** 7.7%
- H. **Transmission Line:** 1-5/8" 50-ohm EIA Coax.
- I. **Transmission Line Loss:** 0.154dB/100-feet
- J. **Total Transmission Line:** 1,475 feet
- K. **Transmission Line Attenuation:** 2.27 dB

ANTENNA STRUCTURE ELEVATION VIEW



OVERALL HEIGHT AGL:	446.0 M
OVERALL HEIGHT AMSL:	578.5 M
RADIATION CENTER AGL:	417.7 M
RADIATION CENTER AMSL:	550.2 M
RADIATION CENTER HAAT:	435.6 M
AVG OF ALL NON-ODD RADIALS:	114.6 M

COORDINATES (NAD 27):

N. LATITUDE 33° 15' 33"
W. LONGITUDE 82° 17' 09"

Antenna Structure Registration Number:

1018796

NOTE: NOT TO SCALE

KESSLER & GEHMAN

TELECOMMUNICATIONS CONSULTING ENGINEERS

507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

WCES-DT CHANNEL 2

WRENS, GEORGIA

20010124

EXHIBIT 3

Date	24 Jan 2001	Channel	2
Call Letters	WCES-DT		
Location	WRENS, GA		
Customer	GPTC		
Antenna Type	THA-C1-5/5-1		

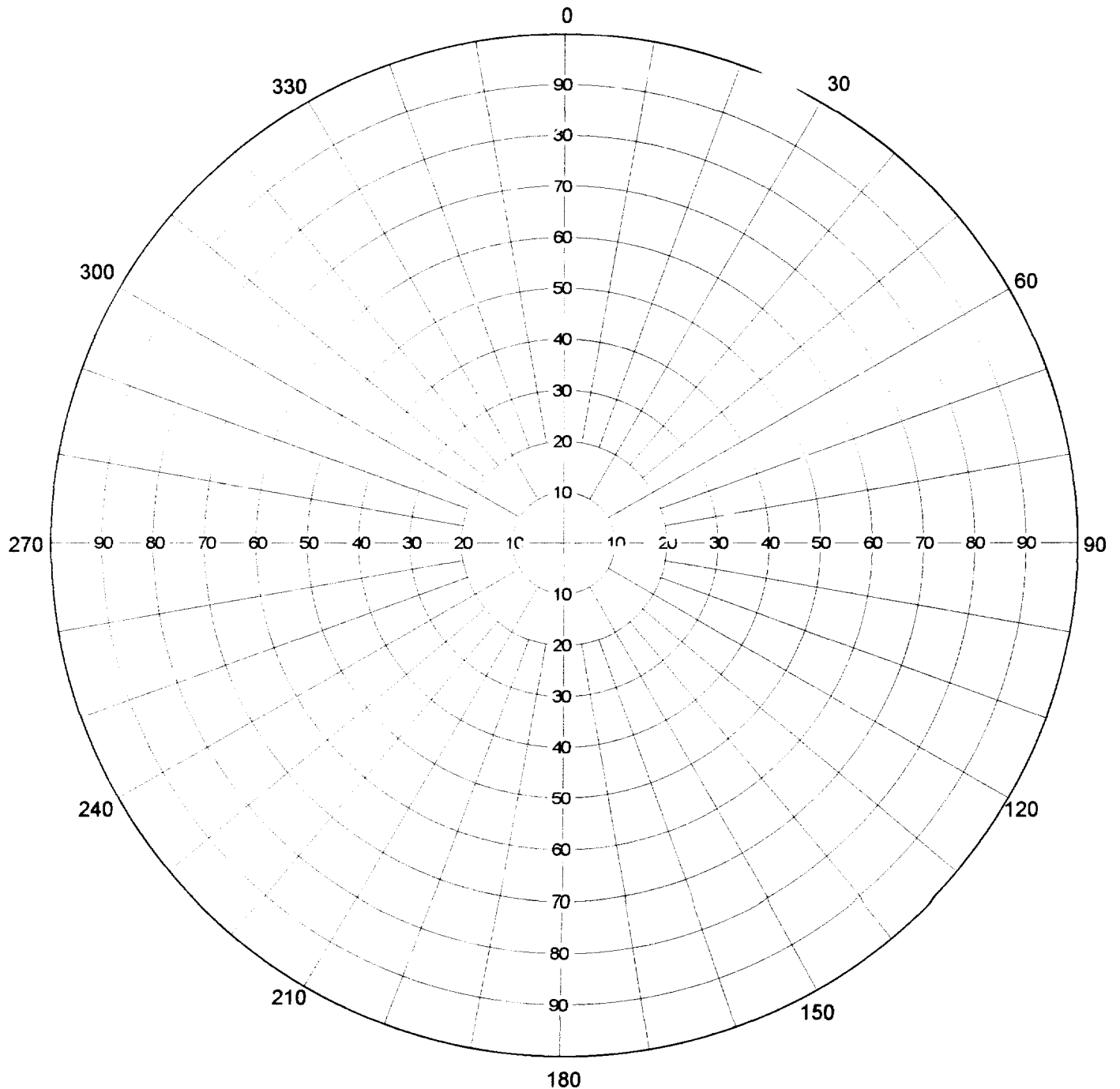
AZIMUTH PATTERN

RMS Gain at Main Lobe
Calculated / Measured

5.30 (7.24 dB)
Calculated

Frequency
Drawing #

57 MHz
THA-S1-H



Remarks:

EXHIBIT 4

Date **24 Jan 2001**
 Call Letters **WCES-DT** Channel **2**
 Location **WRENS, GA**
 Customer **GPTC**
 Antenna Type **THA-C1-5/5-1**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # **THA-S1-H**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.821	45	0.883	90	0.178	135	0.070	180	0.030	225	0.025	270	0.080	315	0.116
1	0.833	46	0.871	91	0.166	136	0.072	181	0.029	226	0.026	271	0.078	316	0.128
2	0.846	47	0.858	92	0.153	137	0.074	182	0.028	227	0.027	272	0.076	317	0.141
3	0.858	48	0.846	93	0.141	138	0.076	183	0.027	228	0.028	273	0.074	318	0.153
4	0.871	49	0.833	94	0.128	139	0.078	184	0.026	229	0.029	274	0.072	319	0.166
5	0.883	50	0.821	95	0.116	140	0.080	185	0.025	230	0.030	275	0.070	320	0.178
6	0.893	51	0.807	96	0.097	141	0.081	186	0.024	231	0.032	276	0.069	321	0.192
7	0.903	52	0.793	97	0.078	142	0.082	187	0.023	232	0.034	277	0.068	322	0.206
8	0.913	53	0.778	98	0.058	143	0.083	188	0.022	233	0.036	278	0.067	323	0.221
9	0.923	54	0.764	99	0.039	144	0.084	189	0.021	234	0.038	279	0.066	324	0.235
10	0.933	55	0.750	100	0.020	145	0.085	190	0.020	235	0.040	280	0.065	325	0.249
11	0.940	56	0.734	101	0.020	146	0.084	191	0.019	236	0.042	281	0.064	326	0.265
12	0.948	57	0.718	102	0.020	147	0.084	192	0.018	237	0.044	282	0.063	327	0.281
13	0.955	58	0.702	103	0.020	148	0.083	193	0.017	238	0.046	283	0.062	328	0.296
14	0.963	59	0.686	104	0.020	149	0.083	194	0.016	239	0.048	284	0.061	329	0.312
15	0.970	60	0.670	105	0.020	150	0.082	195	0.015	240	0.050	285	0.060	330	0.328
16	0.974	61	0.653	106	0.020	151	0.082	196	0.014	241	0.052	286	0.056	331	0.345
17	0.979	62	0.636	107	0.020	152	0.081	197	0.013	242	0.054	287	0.052	332	0.362
18	0.983	63	0.620	108	0.020	153	0.081	198	0.012	243	0.056	288	0.048	333	0.378
19	0.988	64	0.603	109	0.020	154	0.080	199	0.011	244	0.058	289	0.044	334	0.395
20	0.992	65	0.586	110	0.020	155	0.080	200	0.010	245	0.060	290	0.040	335	0.412
21	0.994	66	0.569	111	0.020	156	0.078	201	0.009	246	0.062	291	0.036	336	0.429
22	0.995	67	0.551	112	0.020	157	0.076	202	0.008	247	0.064	292	0.032	337	0.447
23	0.997	68	0.534	113	0.020	158	0.074	203	0.007	248	0.066	293	0.028	338	0.464
24	0.998	69	0.516	114	0.020	159	0.072	204	0.006	249	0.068	294	0.024	339	0.482
25	1.000	70	0.499	115	0.020	160	0.070	205	0.005	250	0.070	295	0.020	340	0.499
26	0.998	71	0.482	116	0.024	161	0.068	206	0.006	251	0.072	296	0.020	341	0.516
27	0.997	72	0.464	117	0.028	162	0.066	207	0.007	252	0.074	297	0.020	342	0.534
28	0.995	73	0.447	118	0.032	163	0.064	208	0.008	253	0.076	298	0.020	343	0.551
29	0.994	74	0.429	119	0.036	164	0.062	209	0.009	254	0.078	299	0.020	344	0.569
30	0.992	75	0.412	120	0.040	165	0.060	210	0.010	255	0.080	300	0.020	345	0.586
31	0.988	76	0.395	121	0.044	166	0.058	211	0.011	256	0.080	301	0.020	346	0.603
32	0.983	77	0.378	122	0.048	167	0.056	212	0.012	257	0.081	302	0.020	347	0.620
33	0.979	78	0.362	123	0.052	168	0.054	213	0.013	258	0.081	303	0.020	348	0.636
34	0.974	79	0.345	124	0.056	169	0.052	214	0.014	259	0.082	304	0.020	349	0.653
35	0.970	80	0.328	125	0.060	170	0.050	215	0.015	260	0.082	305	0.020	350	0.670
36	0.963	81	0.312	126	0.061	171	0.048	216	0.016	261	0.083	306	0.020	351	0.686
37	0.955	82	0.296	127	0.062	172	0.046	217	0.017	262	0.083	307	0.020	352	0.702
38	0.948	83	0.281	128	0.063	173	0.044	218	0.018	263	0.084	308	0.020	353	0.718
39	0.940	84	0.265	129	0.064	174	0.042	219	0.019	264	0.084	309	0.020	354	0.734
40	0.933	85	0.249	130	0.065	175	0.040	220	0.020	265	0.085	310	0.020	355	0.750
41	0.923	86	0.235	131	0.066	176	0.038	221	0.021	266	0.084	311	0.039	356	0.764
42	0.913	87	0.221	132	0.067	177	0.036	222	0.022	267	0.083	312	0.058	357	0.778
43	0.903	88	0.206	133	0.068	178	0.034	223	0.023	268	0.082	313	0.078	358	0.793
44	0.893	89	0.192	134	0.069	179	0.032	224	0.024	269	0.081	314	0.097	359	0.807

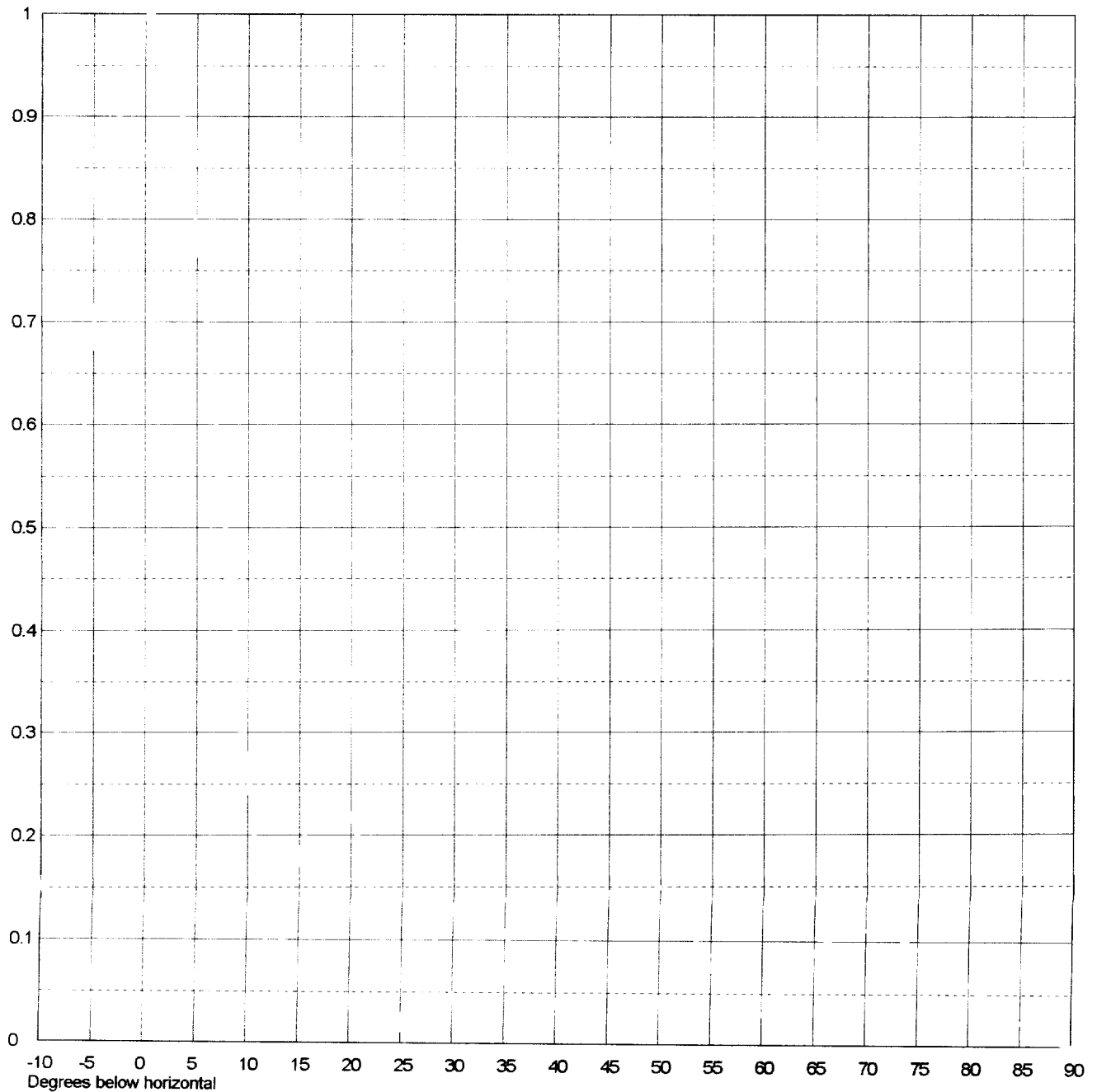
Remarks:

EXHIBIT 5

Date	24 Jan 2001	
Call Letters	WCES-DT	Channel 2
Location	WRENS, GA	
Customer	GPTC	
Antenna Type	THA-C1-5/5-1	

ELEVATION PATTERN

RMS Gain at Main Lobe	5.1 (7.08 dB)	Beam Tilt	0.50 Degrees
RMS Gain at Horizontal	5.1 (7.08 dB)	Frequency	57.00 MHz
Calculated / Measured	Calculated	Drawing #	05H051050-90



Remarks:

EXHIBIT 6

Date **24 Jan 2001**
 Call Letters **WCES-DT** Channel **2**
 Location **WRENS, GA**
 Customer **GPTC**
 Antenna Type **THA-C1-5/5-1**

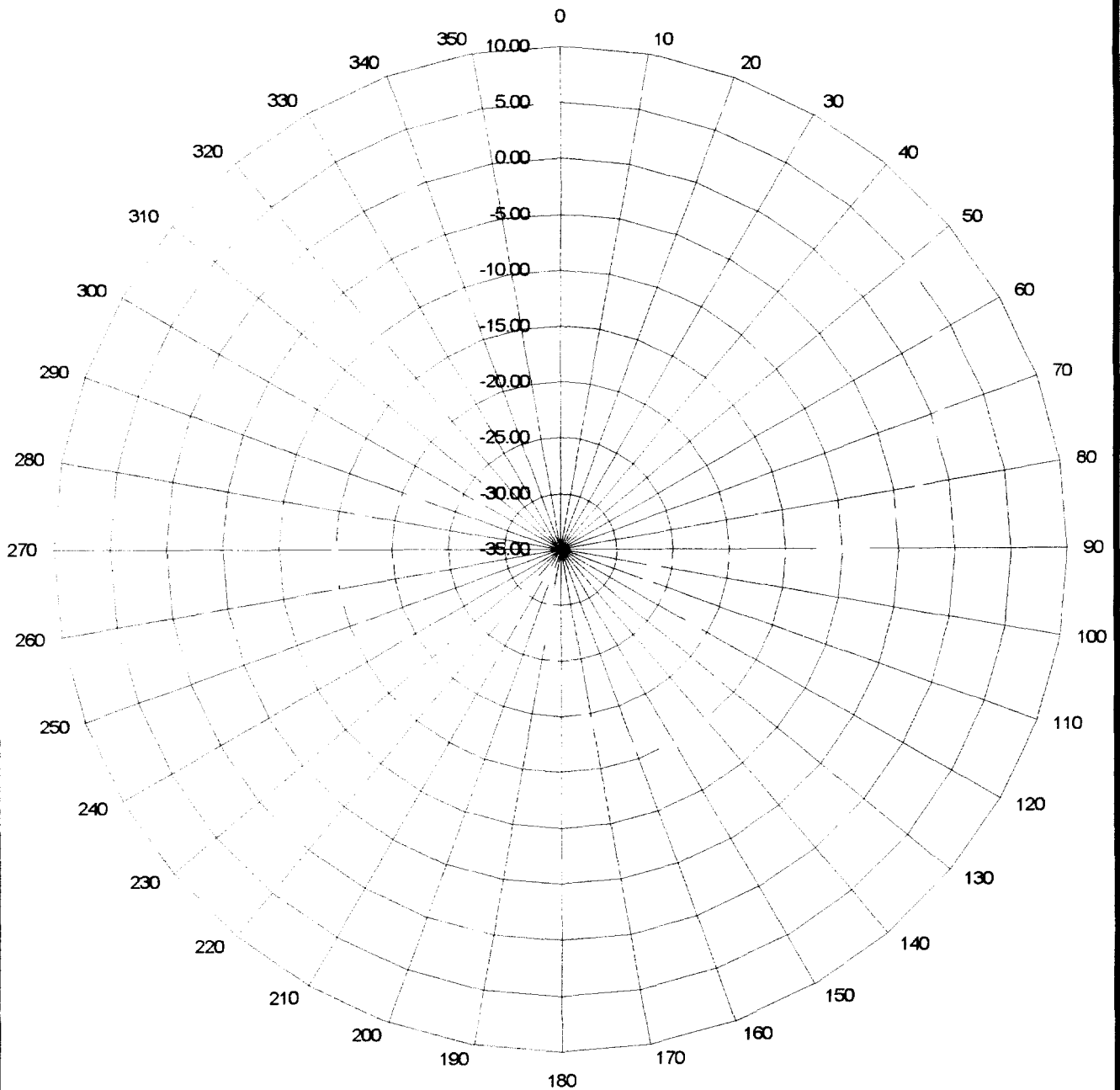
TABULATION OF ELEVATION PATTERNElevation Pattern Drawing # **05H051050-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.138	2.4	0.960	10.6	0.202	30.5	0.138	51.0	0.139	71.5	0.108
-9.5	0.189	2.6	0.951	10.8	0.183	31.0	0.142	51.5	0.133	72.0	0.107
-9.0	0.243	2.8	0.942	11.0	0.165	31.5	0.144	52.0	0.126	72.5	0.105
-8.5	0.299	3.0	0.931	11.5	0.123	32.0	0.144	52.5	0.118	73.0	0.103
-8.0	0.356	3.2	0.920	12.0	0.091	32.5	0.142	53.0	0.110	73.5	0.101
-7.5	0.414	3.4	0.908	12.5	0.077	33.0	0.138	53.5	0.102	74.0	0.099
-7.0	0.471	3.6	0.896	13.0	0.084	33.5	0.133	54.0	0.093	74.5	0.096
-6.5	0.528	3.8	0.882	13.5	0.106	34.0	0.126	54.5	0.084	75.0	0.093
-6.0	0.584	4.0	0.868	14.0	0.131	34.5	0.117	55.0	0.075	75.5	0.090
-5.5	0.638	4.2	0.853	14.5	0.156	35.0	0.108	55.5	0.065	76.0	0.087
-5.0	0.690	4.4	0.838	15.0	0.179	35.5	0.097	56.0	0.056	76.5	0.084
-4.5	0.739	4.6	0.822	15.5	0.198	36.0	0.085	56.5	0.047	77.0	0.081
-4.0	0.786	4.8	0.805	16.0	0.215	36.5	0.073	57.0	0.038	77.5	0.077
-3.5	0.828	5.0	0.788	16.5	0.227	37.0	0.060	57.5	0.030	78.0	0.074
-3.0	0.867	5.2	0.770	17.0	0.236	37.5	0.047	58.0	0.023	78.5	0.070
-2.8	0.881	5.4	0.752	17.5	0.241	38.0	0.035	58.5	0.019	79.0	0.066
-2.6	0.895	5.6	0.733	18.0	0.243	38.5	0.026	59.0	0.020	79.5	0.062
-2.4	0.908	5.8	0.714	18.5	0.241	39.0	0.023	59.5	0.024	80.0	0.059
-2.2	0.920	6.0	0.694	19.0	0.236	39.5	0.029	60.0	0.030	80.5	0.055
-2.0	0.931	6.2	0.674	19.5	0.228	40.0	0.039	60.5	0.037	81.0	0.051
-1.8	0.941	6.4	0.654	20.0	0.217	40.5	0.052	61.0	0.044	81.5	0.047
-1.6	0.951	6.6	0.633	20.5	0.204	41.0	0.064	61.5	0.051	82.0	0.043
-1.4	0.960	6.8	0.612	21.0	0.188	41.5	0.077	62.0	0.057	82.5	0.040
-1.2	0.968	7.0	0.590	21.5	0.171	42.0	0.089	62.5	0.064	83.0	0.036
-1.0	0.975	7.2	0.569	22.0	0.152	42.5	0.100	63.0	0.070	83.5	0.032
-0.8	0.981	7.4	0.547	22.5	0.132	43.0	0.111	63.5	0.076	84.0	0.029
-0.6	0.986	7.6	0.525	23.0	0.110	43.5	0.120	64.0	0.081	84.5	0.025
-0.4	0.991	7.8	0.503	23.5	0.089	44.0	0.129	64.5	0.086	85.0	0.022
-0.2	0.994	8.0	0.481	24.0	0.066	44.5	0.136	65.0	0.090	85.5	0.019
0.0	0.997	8.2	0.459	24.5	0.044	45.0	0.143	65.5	0.094	86.0	0.016
0.2	0.999	8.4	0.436	25.0	0.022	45.5	0.149	66.0	0.098	86.5	0.013
0.4	1.000	8.6	0.414	25.5	0.002	46.0	0.153	66.5	0.101	87.0	0.010
0.6	1.000	8.8	0.392	26.0	0.020	46.5	0.156	67.0	0.103	87.5	0.008
0.8	0.999	9.0	0.370	26.5	0.039	47.0	0.158	67.5	0.105	88.0	0.006
1.0	0.997	9.2	0.348	27.0	0.057	47.5	0.159	68.0	0.107	88.5	0.004
1.2	0.994	9.4	0.326	27.5	0.074	48.0	0.159	68.5	0.108	89.0	0.002
1.4	0.991	9.6	0.305	28.0	0.089	48.5	0.158	69.0	0.109	89.5	0.001
1.6	0.986	9.8	0.283	28.5	0.103	49.0	0.156	69.5	0.110	90.0	0.000
1.8	0.981	10.0	0.262	29.0	0.115	49.5	0.153	70.0	0.110		
2.0	0.975	10.2	0.242	29.5	0.125	50.0	0.149	70.5	0.110		
2.2	0.968	10.4	0.222	30.0	0.132	50.5	0.145	71.0	0.109		

Remarks:

EXHIBIT 7

ERP - dBk



**DIELECTRIC MODEL THA-C1-5/5-1
DIRECTIONAL ANTENNA (CARDIOID)
BEAM ORIENTED AT N25°E
0.5 DEGREES ELECTRICAL BEAM TILT
MAXIMUM ANTENNA GAIN IN BEAM MAXIMUM 14.31 dB**

KESSLER & GEHMAN
TELECOMMUNICATIONS CONSULTING ENGINEERS
507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

**WCES-DT CHANNEL 2
WRENS, GEORGIA**

20010124

EXHIBIT 8

WCES-DT CHANNEL 2

WRENS, GEORGIA

TABULATION OF RELATIVE FIELDS FOR PROPOSED DIRECTIONAL ANTENNA

<u>AZIMUTH</u>	<u>RELATIVE FIELD</u>	<u>AZIMUTH</u>	<u>RELATIVE FIELD</u>
N000°E	0.821	N180°E	0.030
N010°E	0.933	N190°E	0.020
N020°E	0.992	N200°E	0.010
N030°E	0.992	N210°E	0.010
N040°E	0.933	N220°E	0.020
N050°E	0.821	N230°E	0.030
N060°E	0.670	N240°E	0.050
N070°E	0.499	N250°E	0.070
N080°E	0.328	N260°E	0.082
N090°E	0.178	N270°E	0.080
N100°E	0.020	N280°E	0.065
N110°E	0.020	N290°E	0.040
N120°E	0.040	N300°E	0.020
N130°E	0.065	N310°E	0.020
N140°E	0.080	N320°E	0.178
N150°E	0.082	N330°E	0.328
N160°E	0.070	N340°E	0.499
N170°E	0.050	N350°E	0.670

MINIMUM OF 0.005 AT N205°E

MAXIMA OF 1.000 AT N025°E

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TELECOMMUNICATIONS CONSULTING ENGINEERS

507 N.W. 60th Street, Suite C

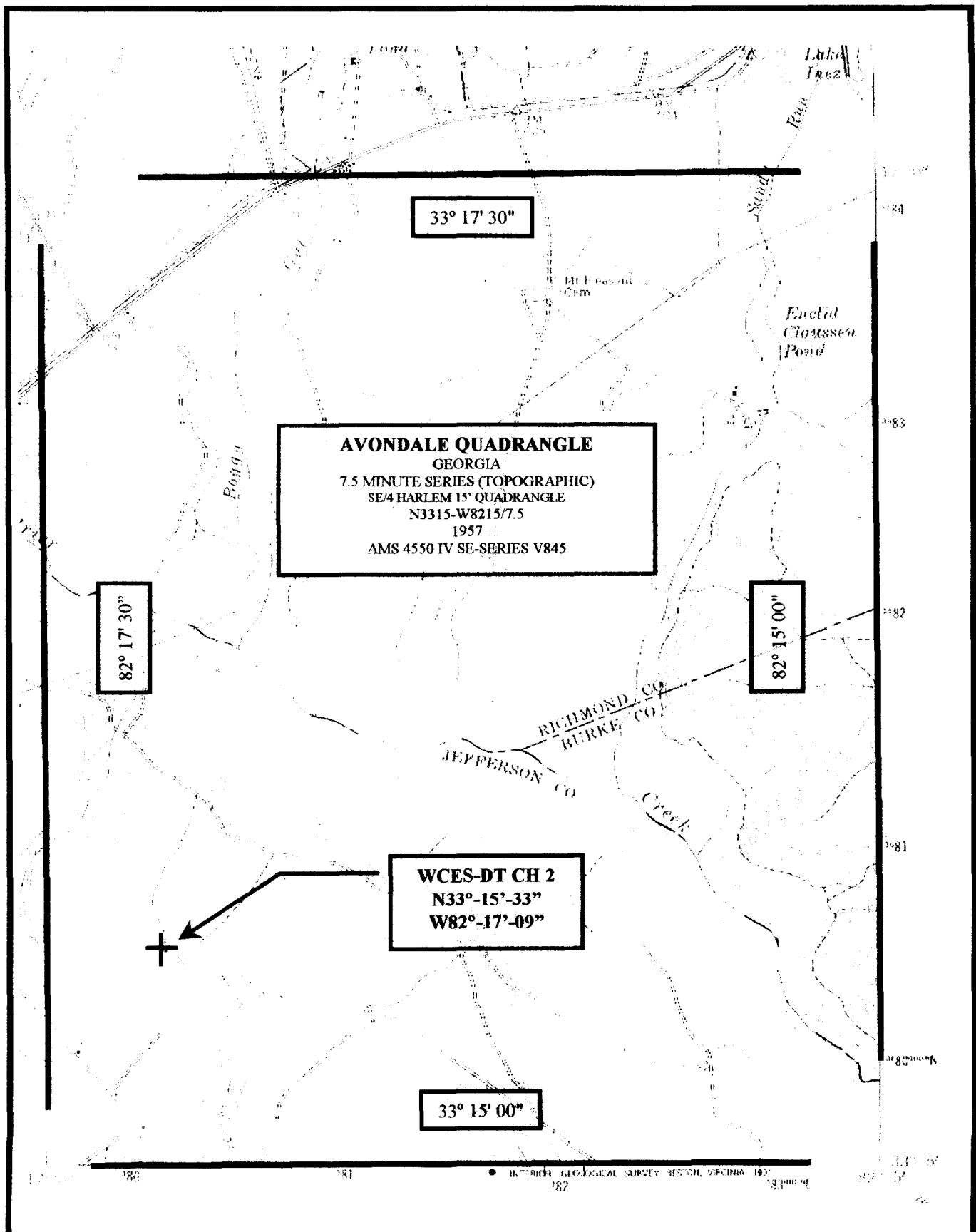
Gainesville, Florida 32607

WCES-DT CHANNEL 2

WRENS, GEORGIA

20010124

EXHIBIT 9



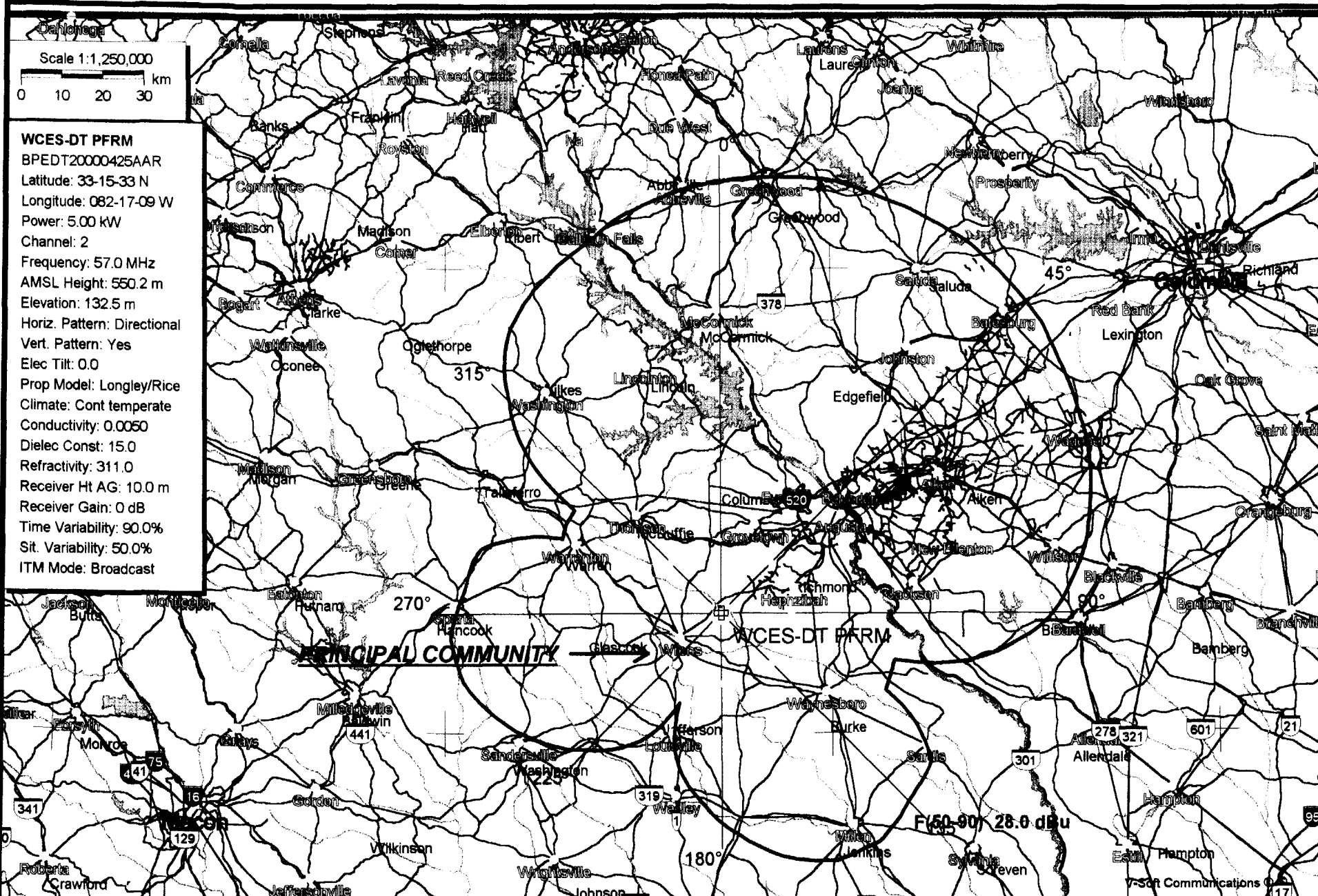
KESSLER & GEHMAN
TELECOMMUNICATIONS CONSULTING ENGINEERS
507 N.W. 60th Street, Suite C
Gainesville, Florida 32607

WCES-DT CHANNEL 2

WRENS, GEORGIA

20010124

EXHIBIT 10



KESSLER & GEHMAN
 TELECOMMUNICATIONS CONSULTING ENGINEERS
 507 N.W. 60th Street, Suite C
 Gainesville, Florida 32607

WCES-DT CHANNEL 2

WRENS, GA

20010124

EXHIBIT 11